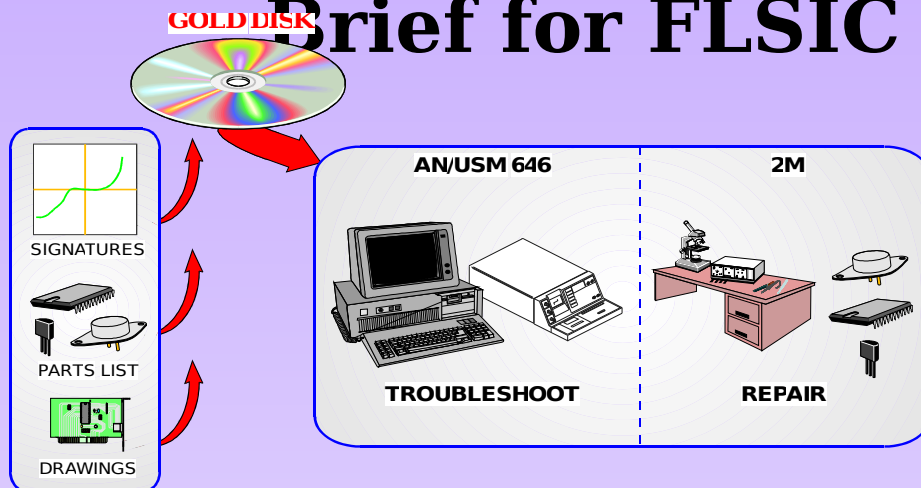




Miniature/Microminiature Module Test & Repair (2M MTR) & Gold Disk Program

Brief for FLSIC (4 March 2004)



2M MTR PROGRAM HOME

PAGES

<http://WWW.CRANE.NAVY.MIL/2M>

[HTTPS://WWW.NOR.NUWC.NAVY.MIL/MTR](https://WWW.NOR.NUWC.NAVY.MIL/MTR)

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Purpose of Brief

Provide Status of FLSIC Action Items:

030306-9 – SEA 04RP2 provide 2M MTR Process flow to PEO-SHIPS.

-- Better document 2M MTR policy and procedures.

Status: Held several meetings with PEO-SHIPS (Tim Phillips) and NSWC PH personnel concerning Gold Disk candidate approval process. New Gold Disk candidates are now provided to NSWC PH personnel for review. NAVICP-M item managers will continue to be involved with decisions to proceed with Gold Disk development. Hardware PMs and ILS managers for some specific systems are also involved in review processes for new Gold Disks.

IRT 2M MTR Policies and procedures, two instructions were revised during 2003 which included new 2M MTR 2



FLSIC Action Item Status

030306-09 (Status Continued) JFMM..... Volume VI, Chapter 8

Has 20 pages on 2M MTR and Gold Disk policy, procedures and responsibilities.

Consolidated Fleet/TYCOMs 2M MTR policy, responsibilities and procedure changes previously provided to NAVSUP 04

(SKCS Christman) to revise SUP P485 have not been incorporated.

Revised NAVSEA INST 4790.17A, 2M MTR instruction is going through final review prior to command wide review. Some

Fleet/TYCOM reps participated in draft 4790.17B



FLSIC Action Item Status

030306-10 Provide quarterly MTRTS data to NAVICP NIINs with high 2M repair rate for Reliability assessment.

NUWCDET Norfolk provided 1ST Quarter data to NAVICP (Wickard). Will continue to provide MTRTS data each quarter to NAVICP 058. NAVICP satisfied with initial data from NSWC PH Code 300 (Dave Drexler) and NSWC Corvair QA-30 (Mitch Fischer) also requested quarterly MTRTS for Reliability assessment.

Provide pertinent Quarterly MTRTS data to CLF/CPF N41s. 1st Qtr FY04 MTRTS data provided to N41 cod



Benefits of 2M MTR Utilization

From 1 APR. 1996 to 31 DEC 2003, Navy commands outfitted by NAVSEA 04RP2 reported **78,509 2M repairs completed which resulted in 5,742 CASREPS averted/corrected and \$237M in OPTAR cost avoidance. Annual program investment was less than \$6M. 1ST QTR FY 04: 2523 2M Repairs completed, 185 CASREPS averted/corrected and \$9.34M in cost avoidance.**

Improves Readiness & Sustainability of systems/equipment

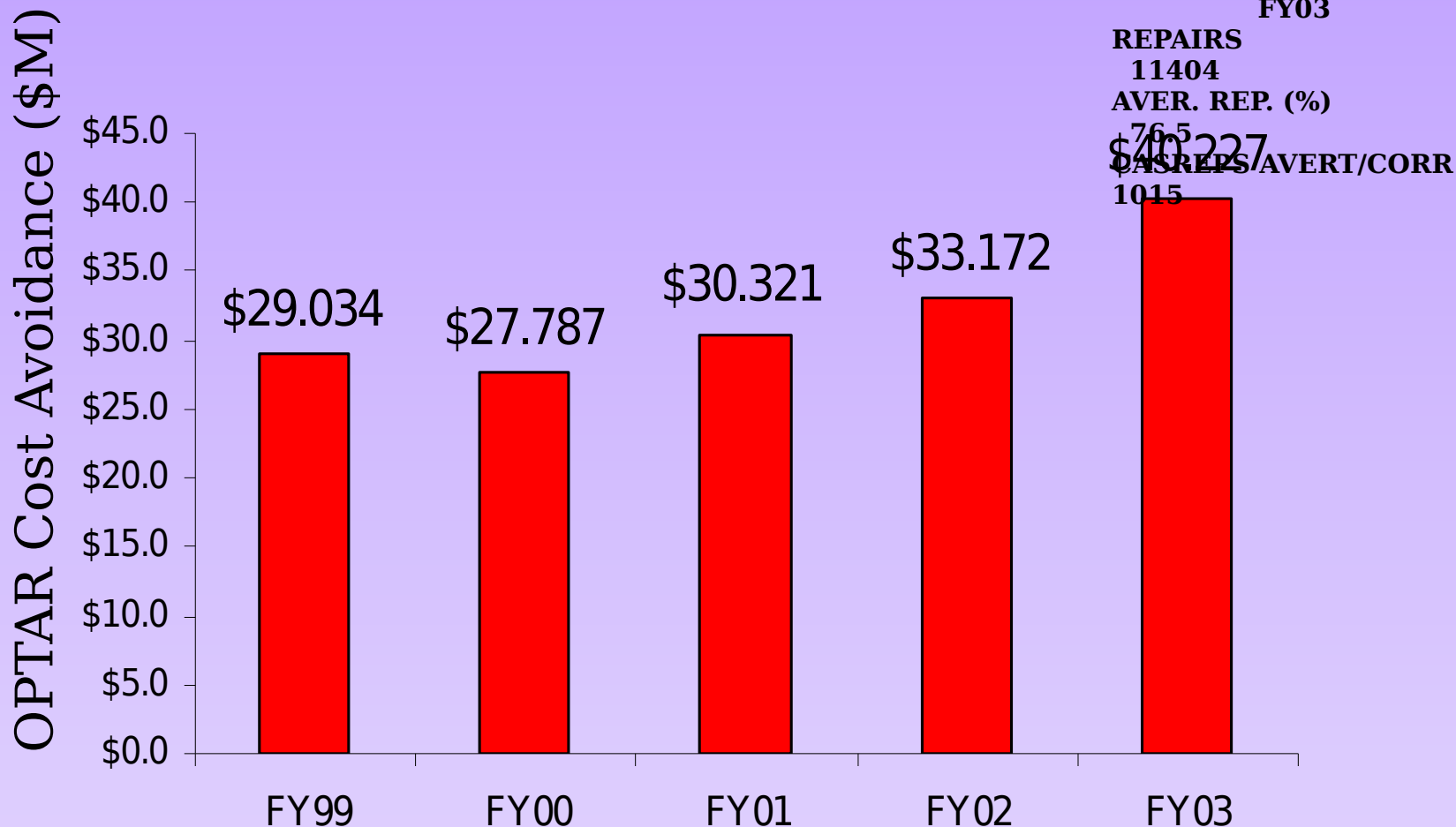
Results in reduced requirements for shipboard and shore spares.

Reduces tech assists from off ship/base tech reps.



A32VIA2M/MTR Tracking System Metrics

FY99		FY00		FY01		FY02	
REPAIRS	9039	REPAIRS	9123	REPAIRS	9567	REPAIRS	10327
AVER. REP. (%)	66.17	AVER. REP. (%)	69.36	AVER. REP. (%)	73.13	AVER. REP. (%)	70.56
CASREPS AVERT/CORR	874	CASREPS AVERT/CORR	675	CASREPS AVERT/CORR	767	CASREPS AVERT/CORR	820



DATA DOES NOT INCLUDE ANY REPAIRS UTILIZING 2M/MTR EQUIPMENT COMPLETED AT NAVAL AND MARINE AVIATION OR MARINE GROUND MAINTENANCE ACTIVITIES.



Slides 8-21 are backup info



SEA 04RP2

Responsibilities

2M MTR Equipment

Outfitting_

- 294 Surface Ships and Shore Commands
- 18 Submarines (TRIDENTS & 4 SSGN)
- 7 NETC Training Commands
- 10 FTSCs 2M MTR Inspector Sites
- New Equipment Evaluation/Selection
- 2M MTR Equipment & SW ILS
- 2M Piece Part APLs (41 Ship Class & 20 Shore)

**New Ship/ System PM, SYSCOM, FMS
and other Services/USCG Interface**

2M Repair Processes_

**2M MTR Certification/ Site Review
Support**

Test Procedure “ Gold Disk”



NAVSEA 2M MTR Program Infrastructure

CNO N43*
2M MTR Resource Sponsor

NAVSEA 04RP2
2M/MTR Program/ILS Manager

NSWC Crane
Code 6083

2M Equipment
ISEA/TDA
- 2M Certifying Agent
- Piece Part Outfitting
(SCN)

FTSCLANT 4103
FTSCPAC 203
FTSCLANT/PAC DETs

2M
Inspectors/FSE

NAVICP-M
Mechanicsburg
Code 058

- 2M Piece Part Support
- 2M/MTR Equipment Support
- Gold Disk Candidate List Data
- CCA/EM Requisition Data
- BOSS Funds for Gold Disks

SEVEN 2M/MTR
TRAINING COMMANDS

NUWC DET FEO
NORFOLK
Code 201V

MTR Equipment
ISEA/TDA
- Gold Disk
Development Mgr
- GD

GOLD DISK DEVELOPERS

- SPAWAR/SEAAIR Field Act.
- Navy IMAs and Training Cmds
- Naval/USMC Aviation IMAs
- USCG (Surface/Aviation)
- USMC (Ground)
- USAF MAJCOMs
- USA



MTR Test Equipment & 2M Repair Training

**Completion of all courses results in
NEC 1591**

AN/USM-674
A-100-0076
5 days

Miniature
Electronic Repair
A-100-0072
26 days
NEC 9527

Micro Miniature
Electronic
Repair
A-100-0073
12 days
NEC 9526

Course Location

FTC Norfolk *

FTC Mayport

FTC San Diego

NAMTRAGRUDET Whidbey
Is.

ATG MIDPAC

ATG WESTPAC)

Instructor (9509) & Inspector (9503)

FTC Norfolk

FTC Mayport

FTC San Diego *

NAMTRAGRUDET Whidbey
Is.

ATG MIDPAC (Pearl
Harbor)

NAMTRAGRUDET Atsugi,
Japan

ATG WESTPAC

FTC Norfolk

FTC Mayport

FTC San Diego *

NAMTRAGRUDET Whidbey
Is.

ATG MIDPAC Pearl Harbor

NAMTRAGRUDET Atsugi,
Japan

ATG WESTPAC

*Course Curriculum Model
Manager

Microscope, tools,
ESD
material and
consumables
not shown.

A collection of electronic assembly equipment is displayed on a white surface. The central piece is a black PRC Thermal Management Center with various controls and a digital display. To its right is a Good Speed reflow oven. In front of these are several soldering irons with different tips and cables. To the left, there are bags of ESD materials and other small components. The background shows a grid of small storage bins.

Portable 2M REPAIR Kit

- Pace MBT-250
- Subset 2M AEL
- < 2 ft³ storage case
- No microscope *



MTR Test Equipment Suite



**AN/USM-646
TEST STATION
(Huntron 5100DS
& Controller)**

916 in use (5/1/02)
460 NAVSEA cog

SHORTTRACK 90
SWITCHER 410
HUNTRON 2000





PROTRACK Configuration

AN/USM-674(V)1

**357 Protracks deployed as of
(9/30/03)**

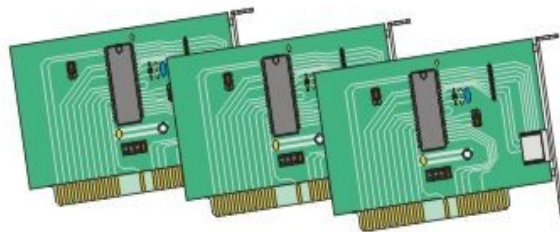


MTR Test Routine Development

PARENT EQUIPMENT



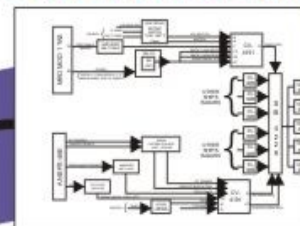
COMBINE TEST SIGNATURES OF 3 RFI CCA/EMs



TEST PROCEDURES & ILS DATA

C1	M39014/01-1513	5910-00-010-8717
C2	M39014/01-1513	5910-00-010-8717
R1	RLR05C1001GR	5905-00-012-2824
R2	RLR05C2201GR	5905-00-165-3181
U1	5757298-25	5962-01-283-9726
U2	5757298-26	5962-01-283-9727
U3	5757298-27	5962-01-283-9161

SCHEMATIC DATA



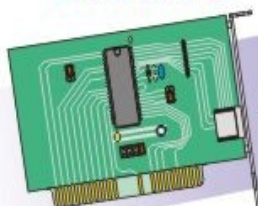
MERGE

MTR TEST ROUTINE DISTRIBUTION

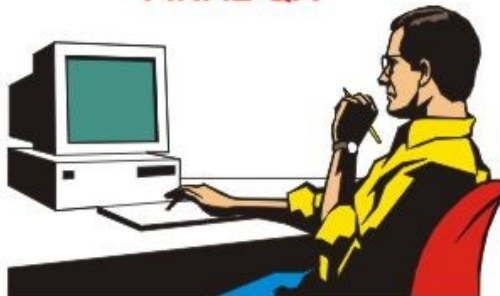


**MTR
WWW**

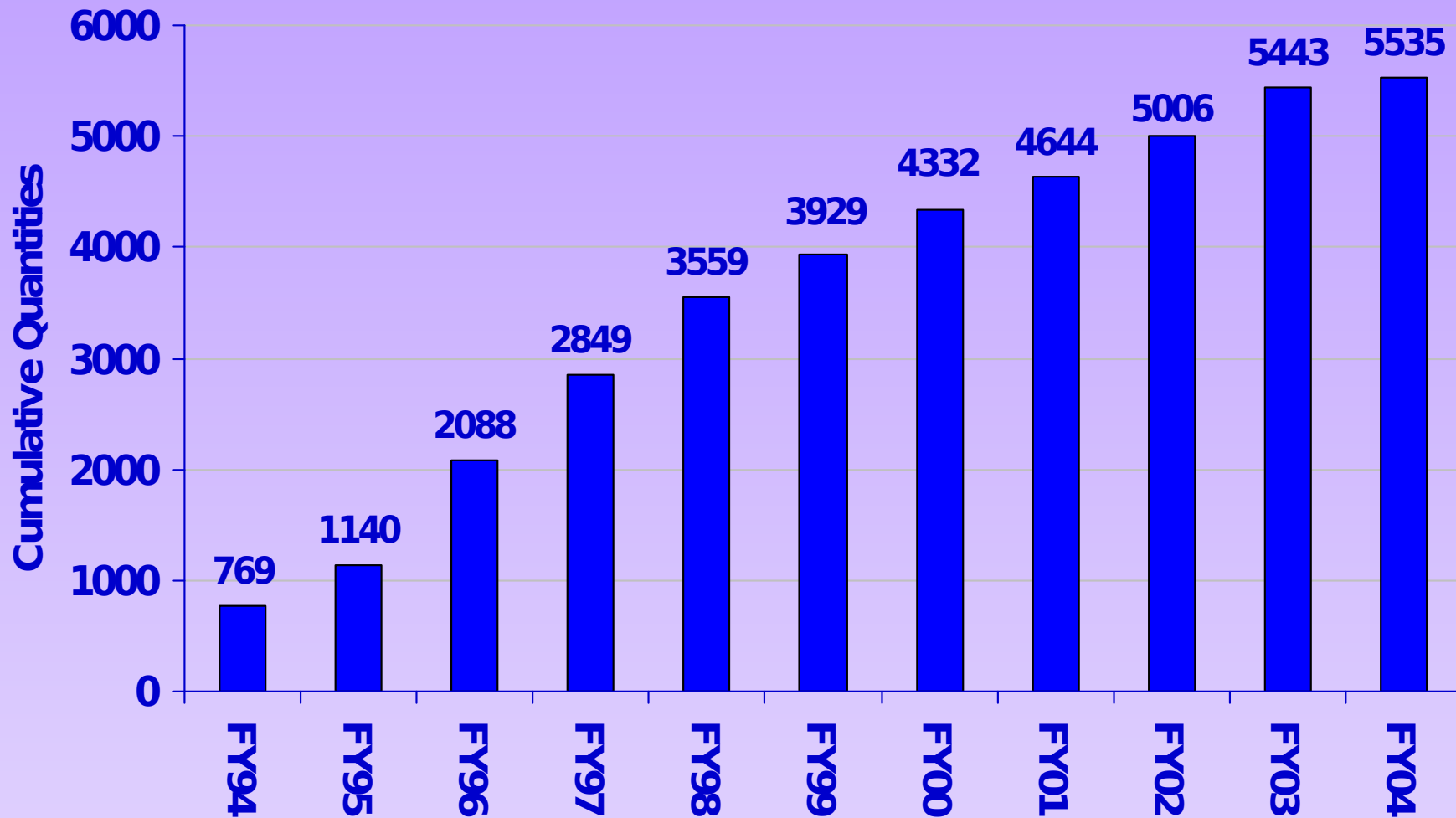
CCA ASSEMBLY DRAWING



FINAL QA



Gold Disk Production

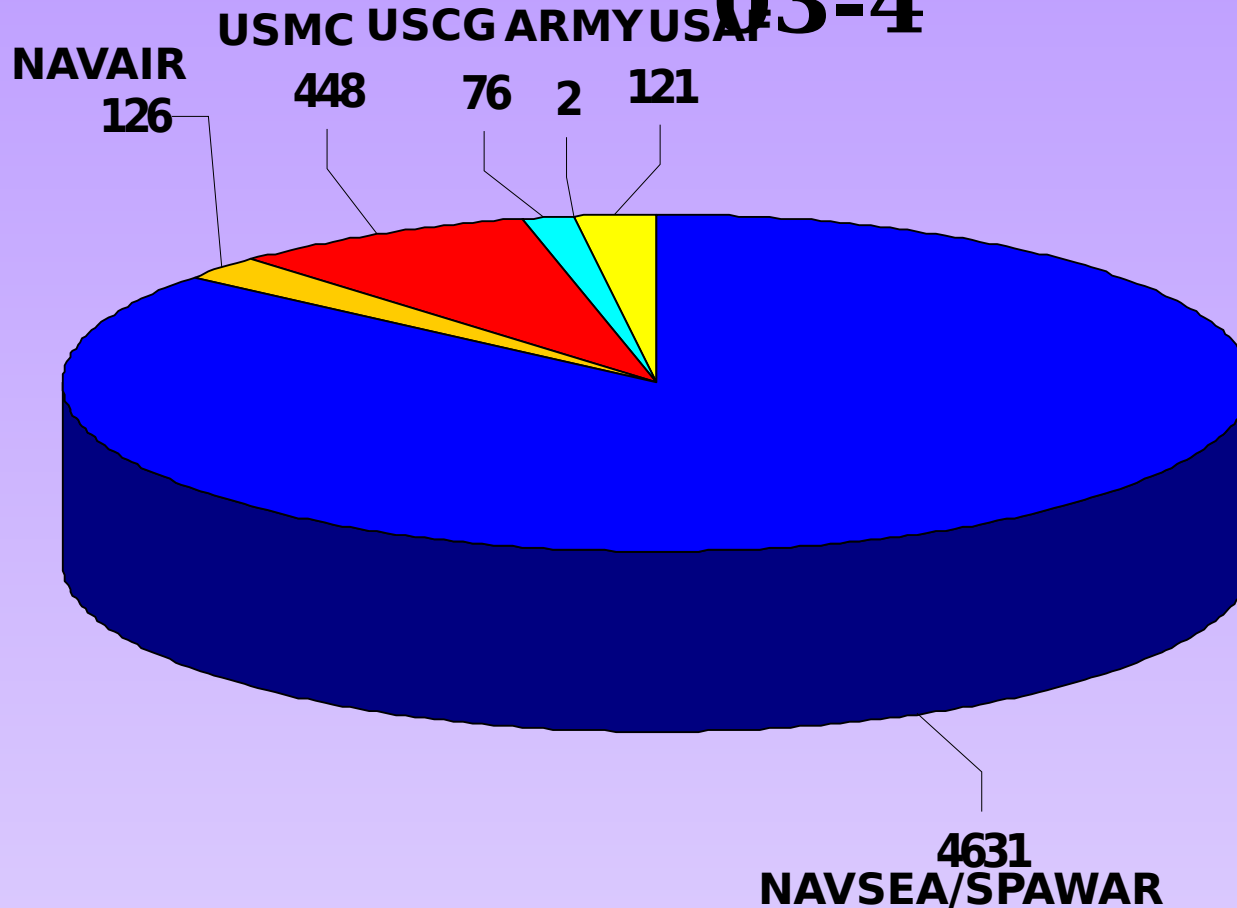


FY04 Total as of 10 JAN 2004



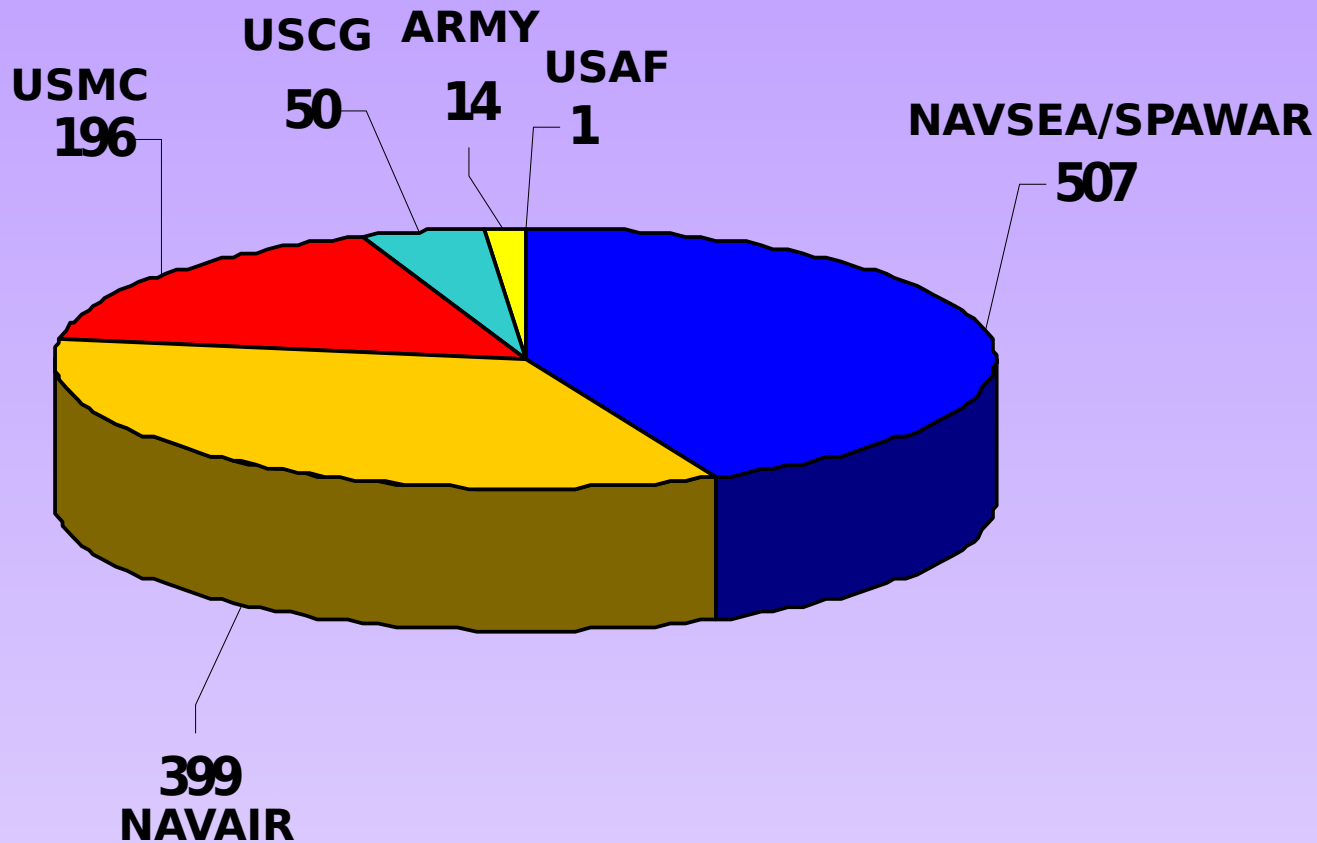
Gold Disk Release

03-4



Total Test Routines	5,404
System Applications	100,420

Silver Disk Release 03-4



Total Test Routines	1,167
System Applications	9,289



Requirements for Successful Utilization of 2M MTR Capabilities

Command Attention and compliance with ISIC Policy;JFMM (CLF/CPF INST 4790.3), Volume IV, Part I, Chapter 11 including Quarterly MTRTS Reports.

Trained Personnel with NEC 1591 and Current Certification

Work center properly outfitted with 2M MTR HW/SW, tools, accessories and 2M piece parts

Effective coordination between Supply and Maintenance personnel to promote screening and repair attempts when feasible for all failed circuit

PINPOINT II

AN/USM-676, (IMA use)



Pace TF 500 (New IMA 2M Convection Rework Station)

